



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER OF PATENTS AND TRADEMARKS
Washington, D.C. 20231
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/540,180	03/31/2000	Sung-Hwa Gong	678-458 (P8993)	2621

7590 01/02/2003

Paul J Farrell
Dilworth & Barrese
333 Earle Ovington Boulevard
Uniondale, NY 11553

EXAMINER

LELE, TANMAY S

ART UNIT

PAPER NUMBER

2681

DATE MAILED: 01/02/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/540,180

Applicant(s)

GONG, SUNG-HWA

Examiner

Tanmay S Lele

Art Unit

2681

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 31 March 2000.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-39 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-39 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☒ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1, 2, 8, 10, 15, and 19 are rejected under 35 U.S.C. 102(e) as being anticipated by Liu et al. (Liu, US Patent No. 6,049,336).

Regarding claim 1, Liu teaches of a method for entering data and selecting functions in a portable phone, the portable phone having a multi-function key for generating a plurality of input signals, comprising the steps of (a) displaying a plurality of menu items in a main menu upon generation of a first input signal by manipulating the multifunction key when the portable phone is in a stand-by state; (b) shifting to a menu item by generating a second input signal by manipulating the multi-function key; and (c) selecting the menu item by generating a third input signal by manipulating the multi-function key (as seen in Figures 1A and Figures 4A- C and detailed in column 3, lines 21 – 27 and starting column 4, lines 24 - 55).

Regarding claim 2, Liu teaches all the claimed limitations as recited in claim 1. Liu further teaches comprising the steps of: (d) displaying a plurality of menu items in a sub-menu if the selected menu item is the sub-menu; (e) shifting to a sub-menu item by generating the second input signal by manipulating the multi-function key; and (f) selecting the sub-menu item by

Art Unit: 2681

generating the third input signal by manipulating the multi-function key (as seen in Figures 4A – C and detailed starting column 4, line 55 and ending column 6, line 29).

Regarding claim 8, Liu teaches all the claimed limitations as recited in claim 1. Liu further teaches of wherein the multi-function key is a rotary switch (column 3, lines 21- 27).

Regarding claim 10, Liu teaches all the claimed limitations as recited in claim 8. Liu further teaches of wherein the plurality of input signals are generated by a key press or a key rotation of the multi-function key, alone or in combination (column 3, lines 21 –27).

Regarding claim 15, Liu teaches all the claimed limitations as recited in claim 1. Liu further teaches of comprising the step of displaying corresponding information each time an input signal is generated (as seen in Figures 4A –C and for example, column 4, lines 35 –46).

Regarding claim 19, Liu teaches of a method for entering data and selecting functions in a portable phone, the portable phone having a multi-function key for generating a plurality of input signals, comprising the steps of: displaying menu items in a main menu upon generation of a first input signal; shifting to a menu item by generating a second input signal; selecting the menu item by generating a third input signal; and performing a predetermined function by generating a fourth input signal (as seen in Figures 1A and Figures 4A- C and detailed in column 3, lines 21 – 27 and starting column 4, lines 24 - 55).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 3, 4, 16, 17, and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Liu et al. (Liu, US Patent No. 6,049,336) as applied to claims 1 and 2 above, and further in view of Ko (Ko, US Patent No. 6,430,314).

Regarding claim 3, Liu teaches all the claimed limitations as recited in claim 1. Liu does not specifically teach of further comprising the steps of (g) displaying a corresponding set of digits/characters if the selected menu item indicates a digit/character input mode; (h) shifting to an intended digit/character by generating the second input signal by manipulating the multi-function key; and (i) selecting the digit/character by generating the third input signal by manipulating the multi-function key; (j) sequentially performing the steps (h) and (i) if a different digit/character is to be entered; and (k) ending the digit/character input mode by generating a fourth input signal through manipulation of the multi-function key when digits/characters are completely entered.

In a related art dealing with a entering data strings into a cellular phone, Ko teaches of further comprising the steps of (g) displaying a corresponding set of digits/characters if the selected menu item indicates a digit/character input mode; (h) shifting to an intended digit/character by generating the second input signal by manipulating the multi-function key; and (i) selecting the digit/character by generating the third input signal by manipulating the multi-function key; (j) sequentially performing the steps (h) and (i) if a different digit/character is to be entered; and (k) ending the digit/character input mode by generating a fourth input signal through manipulation of the multi-function key when digits/characters are completely entered (as seen in Figures 7A and B, 8, and 9 – 13, and detailed in column 4, lines 46 –60 and column 6, lines 16 - 43).

It would have been obvious to one skilled in the art at the time of invention to have included into Liu's multi-function key method, Ko's character selection method, for the purposes of entering characters into electronic devices that do not have keyboards or few keys, as taught by Ko.

Regarding claim 4, Liu in view of Ko teach all the claimed limitations as recited in claim 3. Ko further teaches comprising the step of selecting a function if there exists the function related to the digit/character input mode when the fourth input signal is generated (column 5, lines 25 – 30 and column 6, lines 16 - 43).

Regarding claim 16, Liu in view of Ko teach all the claimed limitations as recited in claim 3. Liu further teaches of comprising the step of displaying corresponding information each time an input signal is generated (as seen in Figures 4A –C and for example, column 4, lines 35 – 46).

Regarding claim 17, Liu teaches all the claimed limitations as recited in claim 2. Liu does not teach of further comprising the step of indicating the current position of a cursor by blinking the cursor.

In a related art dealing with a combined electronic mail and mobile telephone set, Ko teaches of further comprising the step of indicating the current position of a cursor by blinking the cursor (column 6, lines 16 - 48).

It would have been obvious to one skilled in the art at the time of invention to have included into Liu's multi-function key method, Ko's character selection method, for the purposes of entering characters into electronic devices that do not have keyboards or few keys, as taught by Ko.

Art Unit: 2681

Regarding claim 18, Liu in view of Ko teach all the claimed limitations as recited in claim 3. Ko further teaches of comprising the step of indicating the current position of a cursor by blinking the cursor (column 6, lines 16 - 48).

5. Claims 5 and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Liu et al. (Liu, US Patent No. 6,049,336) as applied to claim 1 above, and further in view of Sudo (Sudo, US Patent No. 5,905,964).

Regarding claim 5, Liu teaches all the claimed limitations as recited in claim 1. Lui does not specifically teach of further comprising the step of directly entering a corresponding function if a specific input signal is generated in the stand-by state.

In a related art dealing with a portable communications device utilizing a multi-function key, Sudo teaches of further comprising the step of directly entering a corresponding function if a specific input signal is generated in the stand-by state (as seen in Figures 6A – F and detailed in column lines 6 – 31).

It would have been obvious to one skilled in the art at the time of invention to have included into Liu's multi-function key method, Sudo's short cut method, to decrease the amount of time required to access data, as taught by Sudo.

Regarding claim 6, Liu teaches of a multi-function key (column 3, lines 21 – 27)

Liu does not specifically teach of wherein the multi-function key is an integrated multi-stage structure.

In a related art dealing with a portable communications device utilizing a multi-function key, Sudo teaches of wherein the multi-function key is an integrated multi-stage structure. is an

Art Unit: 2681

integrated multi-stage structure (as seen in Figures 3, 4A, and 4B and detailed starting column 4, line 50 and ending column 5, line 32).

It would have been obvious to one skilled in the art at the time of invention to have included into Liu's multi-function key method, Sudo's structure, for the purposes of providing a device that could easily be operated while the phone was in use, as taught by Sudo.

6. Claims 7 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Liu et al. (Liu, US Patent No. 6,049,336) in view of Sudo (Sudo, US Patent No. 5,905,964) as applied to claim 6 above, and further in view of Hino et al. (Hino, US Patent No. 5,703,947).

Regarding claim 7, Liu in view of Sudo teach all the claimed limitations as recited in claim 6. Liu in view of Sudo do not specifically teach that the multi-function key is a sliding switch.

In a related art dealing with a multi functioned key, Hino teaches that the multi-function key is a sliding switch (column 13, lines 25 – 45).

It would have been obvious to one skilled in the art at the time of invention to have included into Liu and Sudo's multi-functioned key, Hino's sliding switch, for the purposes of allowing the over all communications device to become more compact, as taught by Hino.

Regarding claim 9, Liu, in view of Sudo and Hino, teach all the claimed limitations as recited in claim 7. Hino further teaches of wherein the plurality of input signals are generated by a key press, a key slide right or a key slide left of the multi-function key, alone or in combination (column 13, lines 39 – 45).

7. Claims 11 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Liu et al. (Liu, US Patent No. 6,049,336) in view of Sudo (Sudo, US Patent No. 5,905,964) and further

Art Unit: 2681

in view of Hino et al. (Hino, US Patent No. 5,703,947) as applied to claim 7 above, and further in view of Steele et al (Steel, US Patent No, 6,201,534).

Regarding claim 11, Liu, in view of Sudo and Hino, teach all the claimed limitations as recited in claim 7. Hino further teaches of wherein the plurality of input signals are generated depending on the number of the manipulations of the key (column 13, lines 30 –45).

Liu, in view of Sudo and Hino, do not specifically teach of wherein the plurality of input signals are generated depending on the duration of the manipulations of the key.

In a related art dealing with a trackball pointer used on a portable communications device, Steele teaches of wherein the plurality of input signals are generated depending on the duration of the manipulations of the key (as seen in Figure 3 and detailed on column 3, lines 45 – 62).

It would have been obvious to one skilled in the art at the time of invention to have included into Liu, Sudo, and Hino's multi-function key, Steele's duration method, for the purposes of adding an improved cursor control which is relatively immune from accidental activation and liquid spillage.

Regarding claim 13, Liu, in view of Sudo, Hino and Steele teach all the claimed limitations as recited in claim 11. Steele further teaches wherein the plurality of input signals are generated depending on the combination of the number and duration of the manipulations of the key (as seen in Figure 3 and detailed on column 3, lines 45 –62).

8. Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Liu et al. (Liu, US Patent No. 6,049,336) as applied to claims 8 above, and further in view of Steele et al. (US Patent No, 6,201,534).

Art Unit: 2681

Regarding claim 12, Liu teaches all the claimed limitations as recited in claim 8. Liu further teaches of wherein the plurality of input signals are generated depending on the number of the manipulations of the key (column 3, lines 21 – 27).

Liu does not specifically teach of wherein the plurality of input signals are generated depending on the duration of the manipulations of the key.

In a related art dealing with a trackball pointer used on a portable communications device, Steele teaches of wherein the plurality of input signals are generated depending on the duration of the manipulations of the key (as seen in Figure 3 and detailed on column 3, lines 45 – 62).

It would have been obvious to one skilled in the art at the time of invention to have included into Liu's multi-function key, Steele's duration method, for the purposes of adding an improved cursor control which is relatively immune from accidental activation and liquid spillage.

9. Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Liu et al. (Liu, US Patent No. 6,049,336) as applied to claim 1 above, and further in view of Sudo (Sudo, US Patent No. 5,905,964) and Steele et al. (US Patent No. 6,201,534).

Regarding claim 14, Liu teaches all the claimed limitations as recited in claim 1. Liu does not specifically teach of wherein the multi-function key is an integrated two-stage sliding type and generates the input signals according to a number and a duration of a key press or a key slide.

In a related art dealing with a portable communications device utilizing a multi-function key, Sudo teaches of wherein the multi-function key is an integrated two-stage sliding type and

Art Unit: 2681

generates the input signals according to a number of a key press or a key slide (as seen in Figures 3, 4A and 4B and detailed starting column 4, line 50 and ending column 5, line 32).

It would have been obvious to one skilled in the art at the time of invention to have included into Liu's multi-function key method, Sudo's structure, for the purposes of providing a device that could easily be operated while the phone was in use, as taught by Sudo.

Liu in view of Sudo, still do not teach of generates the input signals according to a duration of a key press or a key slide.

In a related art dealing with a trackball pointer used on a portable communications device, Steele teaches of generates the input signals according to a duration of a key press or a key slide (as seen in Figure 3 and detailed on column 3, lines 45 –62).

It would have been obvious to one skilled in the art at the time of invention to have included into Liu's multi-function key, Steele's duration method, for the purposes of adding an improved cursor control which is relatively immune from accidental activation and liquid spillage.

10. Claim is 20 rejected under 35 U.S.C. 103(a) as being unpatentable over Liu et al. (Liu, US Patent No. 6,049,336) as applied to claim 19 above, and further in view of Steele et al. (Steele, US Patent No. 6,201,534) and in further view of Hino et al. (Hino, US Patent No. 5,703,947).

Regarding claim 20, Liu teaches all the claimed limitations as recited in claim 19. Liu further teaches wherein the first to fourth input signals are predetermined among the plurality of input signals generated according to the number of a key press of the multi-function key (as seen

Art Unit: 2681

in Figures 1A and Figures 4A- C and detailed in column 3, lines 21 – 27 and starting column 4, lines 24 - 55).

Liu does not specifically teach of generated according to the duration of a key slide right or a key slide left of the multi-function key.

In a related art dealing with a multi functioned key, Hino teaches of a key slide right or a key slide left of the multi-function key (column 13, lines 25 – 45).

It would have been obvious to one skilled in the art at the time of invention to have included into Liu's multi-functioned key, Hino's sliding switch, for the purposes of allowing the over all communications device to become more compact, as taught by Hino.

Liu in view of Hino still do not teach of generated according to the duration [of a key press, a key slide right or a key slide left of the multi-function key].

In a related art dealing with a trackball pointer used on a portable communications device, Steele teaches of generated according to the duration [of a key press, a key slide right or a key slide left of the multi-function key] (as seen in Figure 3 and detailed on column 3, lines 45 –62).

It would have been obvious to one skilled in the art at the time of invention to have included into Liu and Hino's multi-function key, Steele's duration method, for the purposes of adding an improved cursor control which is relatively immune from accidental activation and liquid spillage.

11. Claim is 21 rejected under 35 U.S.C. 103(a) as being unpatentable over Ko (Ko, US Patent No. 6,430,314) in view of Steele et al. (Steele, US Patent No. 6,201,534) and in further view of Hino et al. (Hino, US Patent No. 5,703,947).

Regarding claim 21, Ko teaches of a method for using a multi-function key in a portable phone for inputting digits/characters in a digit/character input mode, the multi-function key generating a plurality of input signals according to a number of a key press, comprising the steps of displaying a set of digits/characters upon generation of a first input signal by manipulating the multi-function key; shifting to a digit/character each time an input signal is generated while the set of digits/characters are displayed; selecting the digit/character upon generation of a second input signal by manipulating the multi-function key; and ending the digit/character input mode upon generation of a third input signal by manipulating the multi-function key (as seen in Figures 7A and B, 8, and 9 – 13, and detailed in column 4, lines 46 – 60 and column 6, lines 16 - 43).

Ko does not teach of generating a plurality of input signals according to a duration of a key press, of a key slide right or a key slide left of the multi-function key, or of [selecting the digit/character upon generation of a second input signal] by sliding the multi-function key to the left or right.

In a related art dealing with a multi functioned key, Hino teaches of a key slide right or a key slide left of the multi-function key and of [selecting the digit/character upon generation of a second input signal] by sliding the multi-function key to the left or right (column 13, lines 25 – 45).

It would have been obvious to one skilled in the art at the time of invention to have included into Ko's multi-functioned key, Hino's sliding switch, for the purposes of allowing the over all communications device to become more compact, as taught by Hino.

Ko in view of Hino do not teach of generating a plurality of input signals according to a duration of a key press.

In a related art dealing with a trackball pointer used on a portable communications device, Steele teaches of generating a plurality of input signals according to a duration of a key press (as seen in Figure 3 and detailed on column 3, lines 45 –62).

It would have been obvious to one skilled in the art at the time of invention to have included into Ko and Hino's multi-function key, Steele's duration method, for the purposes of adding an improved cursor control which is relatively immune from accidental activation and liquid spillage.

Regarding claim 22, Ko in view of Hino and Steele, teach all the claimed limitations as recited in claim 21. Ko further teaches comprising the steps of displaying a digit/character selection menu for selecting a digit/character upon generation of the first input signal, selecting a specific digit/character by a fourth input signal generated by manipulating the multi-function key, and displaying the selected digit/character (as seen in Figures 7A and B, 8, and 9 – 13, and detailed in column 4, lines 46 –60 and column 6, lines 16 - 43).

Regarding claim 23, Ko in view of Hino and Steele, teach all the claimed limitations as recited in claim 22. Ko further teaches comprising the step of marking the selected digit/character while digits/characters are displayed (as seen in Figures 7A and B, 8, and 9 – 13, and detailed in column 4, lines 46 –60 and column 6, lines 16 - 43).

Regarding claim 24, Ko in view of Hino and Steele, teach all the claimed limitations as recited in claim 21. Ko further teaches comprising the step of blinking a cursor on the selected

Art Unit: 2681

digit/character to indicate the selected digit/character (as seen in Figures 7A and B, 8, and 9 – 13, and detailed in column 4, lines 46 –60 and column 6, lines 16 - 48).

Regarding claim 25, Ko in view of Hino and Steele, teach all the claimed limitations as recited in claim 23. Ko further teaches comprising the step of blinking a cursor on the selected digit/character to indicate the selected digit/character (as seen in Figures 7A and B, 8, and 9 – 13, and detailed in column 4, lines 46 –60 and column 6, lines 16 - 43).

Regarding claim 26, Ko in view of Hino and Steele, teach all the claimed limitations as recited in claim 24. Ko further teaches wherein the first to fourth input signals are predetermined among the plurality of input signals generated by manipulating the multi-function key (as seen in Figures 7A and B, 8, and 9 – 13, and detailed in column 4, lines 46 –60 and column 6, lines 16 - 43).

Regarding claim 27, Ko in view of Hino and Steele, teach all the claimed limitations as recited in claim 26. Ko further teaches of wherein the first to fourth input signals are generated according to the number of the manipulations of the key (as seen in Figures 7A and B, 8, and 9 – 13, and detailed in column 4, lines 46 –60 and column 6, lines 16 - 43). Steele further teaches of wherein the first to fourth input signals are generated according to the duration of the manipulations of the key (as seen in Figure 3 and detailed on column 3, lines 45 –62).

Regarding claim 32, Ko in view of Hino and Steele, teach all the claimed limitations as recited in claim 21. Ko further teaches of further comprising the step of shifting to another line of digits/characters upon generation of a predetermined input signal when the digits/characters are displayed in a plurality of lines (as seen in Figures 7A and B, 8, and 9 – 13, and detailed in column 4, lines 46 –60 and column 6, lines 16 - 43).

Art Unit: 2681

12. Claim 28 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ko (Ko, US Patent No. 6,430,314) in view of Steele et al. (Steele, US Patent No. 6,201,534) in further view of Hino et al. (Hino, US Patent No. 5,703,947) as applied to claim 21 above, and further in view of Nakanishi (Nakanishi, US Patent No. 6,064,725).

Regarding claim 28, Ko, in view of Steele and Hino, teach all the claimed limitations as recited in claim 21. Ko in view of Steele and Hino fail to teach further comprising the step of dialing the selected digits/characters as a telephone number upon generation of the third input signal.

In a related art dealing with a communication terminal device using a multi-function key, Nakanishi teaches of further comprising the step of dialing the selected digits/characters as a telephone number upon generation of the third input signal (column 6, lines 13 – 15).

It would have been obvious to one skilled in the art at the time of invention to have included into Ko, Steele, and Hino's multi-function key method, Nakanishi's dialing method, for the purposes of easily dialing a number utilizing one key, as taught by Nakanishi.

13. Claims 29 – 31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ko (Ko, US Patent No. 6,430,314) in view of Steele et al. (Steele, US Patent No. 6,201,534) in further view of Hino et al. (Hino, US Patent No. 5,703,947) as applied to claim 22 above, and further in view of Ko et al (Ko, US Patent No. 6,300,934).

Regarding claim 29, Ko (6,430,314), in view of Steele and Hino, teach all the claimed limitations as recited in claim 22. Ko (6,430,314) further teaches of further comprising the step of displaying an icon (column 6, lines 49 –66).

Ko (6,430,314), in view of Steele and Hino, fail to teach of [further comprising the step of displaying an icon] to transfer to another set of digits/characters.

In a related art dealing with entering characters into a cellular telephone, Ko (6,300,934) teaches of [further comprising the step of displaying an icon] to transfer to another set of digits/characters (as seen in Figures 10A-C and detailed in column 4, lines 35 – 45).

It would have been obvious to one skilled in the art at the time of invention to have included into Ko (6,430,314), in view of Steele and Hino's method of character input, Ko's (6,300,934) icon, for the purposes of entering characters into an electronic device that has a relatively small display region, as taught by Ko (6,300,934).

Regarding claim 30, Ko (6,430,314), in view of Steele, Hino, and Ko (6,300,934), teach all the claimed limitations of claim 29. Ko (6,300,934) further teaches comprising the steps of transferring to the another set of digits/characters by generating an input signal by manipulating the multi-function key; and displaying the another set of digits/characters (as seen in Figures 10A-C and detailed in column 4, lines 35 – 45).

Regarding claim 31, Ko (6,430,314), in view of Steele, Hino, and Ko (6,300,934), teach all the claimed limitations of claim 30. Ko (6,430,314) further teaches of further comprising the step of sequentially performing the steps of shifting, selecting and ending after the digit/character set indicated by the icon is displayed. (as seen in Figures 7A and B, 8, and 9 – 13, and detailed in column 4, lines 46 –60 and column 6, lines 16 - 43).

14. Claims 33 – 39 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nakanishi (Nakanishi, US Patent No. 6,064,725) in view of Hino et al. (Hino, US Patent No. 5,703,725), in

Art Unit: 2681

view of Ko (US Patent No. 6,430,314) and in further view of Steele et al (Steele, US Patent No. 6,201,534).

Regarding claim 33, Nakanishi teaches of a method for telephone number dialing using a multi-function key which generates a plurality of input signals according to a number of a key press, a key slide left, or a key slide right in a portable phone, comprising the steps of displaying digits/characters upon generation of a first input signal for input of a telephone number by manipulating the multi-function key in a main menu and dialing the selected digits/characters as a telephone number upon generation of a third input signal by manipulating the multi-function key (column 6, lines 1 –15).

Nakanishi does not teach of shifting a specific digit/character each time an input signal is generated through a key slide left or a key slide right; selecting the digit/character upon generation of a second input signal by manipulating the multi-function key or of generates a plurality of input signals according to a duration of a key press, a key slide left, or a key slide right in a portable phone.

In a related art dealing with a entering data strings into a cellular phone, Ko teaches of shifting a specific digit/character each time an input signal is generated, of selecting the digit/character upon generation of a second input signal by manipulating the multi-function key (as seen in Figures 7A and B, 8, and 9 – 13, and detailed in column 4, lines 46 –60 and column 6, lines 16 - 43).

It would have been obvious to one skilled in the art at the time of invention to have included into Liu's multi-function key method, Ko's character selection method, for the purposes

Art Unit: 2681

of entering characters into electronic devices that do not have keyboards or few keys, as taught by Ko.

Nakanishi in view of Ko do not teach of an input signal is generated through a key slide left or a key slide right or of generates a plurality of input signals according to a duration of a key press, a key slide left, or a key slide right in a portable phone.

In a related art dealing with a multi functioned key, Hino teaches of an input signal is generated through a key slide left or a key slide right (column 13, lines 25 – 45).

It would have been obvious to one skilled in the art at the time of invention to have included into Nakanishi and Ko's multi-functioned key, Hino's sliding switch, for the purposes of allowing the over all communications device to become more compact, as taught by Hino.

Nakanishi in view of Ko and Hino do not teach [generates a plurality of input signals] according to a duration [of a key press, a key slide left, or a key slide right in a portable phone].

In a related art dealing with a trackball pointer used on a portable communications device, Steele teaches of [generates a plurality of input signals] according to a duration [of a key press, a key slide left, or a key slide right in a portable phone] (as seen in Figure 3 and detailed on column 3, lines 45 –62).

It would have been obvious to one skilled in the art at the time of invention to have included into Nakanishi, Ko and Hino's multi-function key, Steele's duration method, for the purposes of adding an improved cursor control which is relatively immune from accidental activation and liquid spillage.

Regarding claim 34, Nakanishi in view of Ko, Hino, and Steele, teach all the claimed limitations as recited in claim 33. Ko further teaches of the step of blinking a cursor on the selected digit/character to indicate the selected digit/character (column 6, lines 16 - 48).

Regarding claim 35, Nakanishi in view of Ko, Hino, and Steele, teach all the claimed limitations as recited in claim 34. Nakanishi further teaches of wherein the first, second, and third input signals are predetermined among the plurality of input signals generated by manipulating the multi-function key (column 5, lines 21 – 54).

Regarding claim 36, Nakanishi in view of Ko, Hino, and Steele, teach all the claimed limitations as recited in claim 35. Nakanishi further teaches wherein the first, second, and third input signals are generated according to a number of a manipulation of the key (column 5, lines 21 – 54). Steele further teaches wherein the first, second, and third input signals are generated according to a duration of a manipulation of the key (as seen in Figure 3 and detailed on column 3, lines 45 –62).

Regarding claim 37, Nakanishi in view of Ko, Hino, and Steele, teach all the claimed limitations as recited in claim 35. Nakanishi further teaches wherein the first, second, and third input signals are generated according a combination of a number of a manipulation of the key (column 5, lines 21 – 54). Steele further teaches wherein the first, second, and third input signals are generated according a combination of a duration of a manipulation of the key (as seen in Figure 3 and detailed on column 3, lines 45 –62).

Regarding claim 38, Nakanishi in view of Ko, Hino, and Steele, teach all the claimed limitations as recited in claim 36. Ko further teaches of comprising the steps of marking the selected digit/character while the digits/characters are displayed; and displaying the marked

Art Unit: 2681

digits/characters (as seen in Figures 7A and B, 8, and 9 – 13, and detailed in column 4, lines 46 – 60 and column 6, lines 16 - 48).


Regarding claim 39, Nakanishi in view of Ko, Hino, and Steele, teach all the claimed limitations as recited in claim 37. Ko further teaches of comprising the steps of marking the selected digit/character while the digits/characters are displayed; and displaying the marked digits/characters (as seen in Figures 7A and B, 8, and 9 – 13, and detailed in column 4, lines 46 – 60 and column 6, lines 16 - 48).

Conclusion

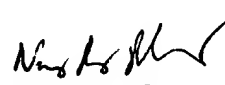
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tanmay S Lele whose telephone number is (703) 305-3462. The examiner can normally be reached on 9 - 6:30 PM Monday - Thursday s and on alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dwayne Bost can be reached on (703) 305-4778. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9314 for regular communications and (703) 872-9314 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 306-0377.


Tanmay S Lele
Examiner
Art Unit 2681

tsl
December 17, 2002


NAY MAUNG
PRIMARY EXAMINER